

Abstract

The microphone system for communication devices that comprises an electric circuit comprising two microphone elements connected to a signal flow processor. This processor uses a digital signal processor or comparable analog circuitry to provide a particular electrical time delay (τ) to one of the microphone elements (nearest the ear or loudspeaker) and a compatible amplitude gain ($Gm1$) to the other microphone element (nearest the user's mouth) in order to substantially reduce the external acoustic coupling and echo of communication devices in the receive and doubletalk state. Further, this processing system allows the microphone system to reduce the pickup of ambient noise in the send and idle state, while still being sensitive to the user's speech.

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